

RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/S38, S30

Source: 1FW/b

Date Processed by STIC: 2/22/06

ENTERED



IFW16

RAW SEQUENCE LISTING

DATE: 02/22/2006

PATENT APPLICATION: US/10/538,530

TIME: 12:11:07

Input Set : A:\MBP-017xxSeqList.txt

Output Set: N:\CRF4\02222006\J538530.raw

```

3 <110> APPLICANT: Reski, Ralf
4      Decker, Eva
5      Justine Kiessling
7 <120> TITLE OF INVENTION: FtsZ-POLYPEPTIDES AS A TARGET FOR HERBICIDAL COMPOUNDS
9 <130> FILE REFERENCE: MBP-017XX
11 <140> CURRENT APPLICATION NUMBER: US 10/538,530
12 <141> CURRENT FILING DATE: 2005-06-10
14 <150> PRIOR APPLICATION NUMBER: PCT/EP2003/014162
15 <151> PRIOR FILING DATE: 2003-12-12
17 <150> PRIOR APPLICATION NUMBER: US 60/433,556
18 <151> PRIOR FILING DATE: 2002-12-13
20 <150> PRIOR APPLICATION NUMBER: US 60/438,466
21 <151> PRIOR FILING DATE: 2003-01-07
23 <160> NUMBER OF SEQ ID NOS: 5
25 <170> SOFTWARE: PatentIn version 3.1
27 <210> SEQ ID NO: 1
28 <211> LENGTH: 1335
29 <212> TYPE: DNA
30 <213> ORGANISM: Physcomitrella patens
32 <400> SEQUENCE: 1
33 atgatgagct ccatggtgag gtttagctcg agcccggtgct ctttcaccgg gtcgttgtgc      60
35 tcaacatcgc cgcagtcgat gcaccccatg agctctgtcg cggaaggt gacgaggcaa      120
37 tgtgggtgct tgagagcggg gaataagctg gataaggacc aatttgtggg tgatgggaaa      180
39 ccacttatgc atcaacagac gcggggatgg agtcaggggc gggagagggtg tcacgcaggg      240
41 aggtctgtgg tgatggccag tatgagtggc gccaaagatca aggtcattgg ttagggcggc      300
43 gggggcaaca atgctgtgaa ccgcatgatt gggagcggca ttcagggtgt tgatttttgg      360
45 gccatcaaca cagatgttca agctttgcag aaatcacaag ccgaacatcg cgttcaaadc      420
47 ggcgaagctt tgacccgagg acttggtact ggtggaaagc cattccttgg agaacaagca      480
49 gcagaggaat cgatagaaat cattgcacag gcagtggtag atgctgatct tgtcttcatt      540
51 actgcgggca tgggtggtgg aacggggtct ggggctgccc cggtcgttgc ccgtgtggcc      600
53 aaagaggcag ggcaactcac tgttggtgtt gtcacttatc cgtttacgtt tgagggccgt      660
55 cggagaagcc agcaggcagt ggaggcaata gagaatctgc ggaagtctgt cgacagtcct      720
57 attgtcattc ctaatgaccg tctactcgat gtctccggag ataaaactcc tcttcaggaa      780
59 gcattttctc tagccgacga tggtcttagg caggggagttc aaggcatttc agacatcatc      840
61 acaacgccag gtcttgtgaa tggtgatttt gcagatgtta gagctgtaat gagtaactca      900
63 ggtacagcca tgcttggcgt tggtcctctc agtggaaga atcgtgctga ggaggccgct      960
65 gttcaagctg cttcagcccc tcttattgaa cgctctattg aacaagcaac tggcattgta      1020
67 tacaacatca ctggtggacc ggacctcaca ttgcagggaag tcaacaccgt gtctgagatt      1080
69 gtaacagggt tagctgacct ctgagcta atcatttttg gagcggtagt ggatgacaaa      1140
71 tatacagggt aaatccatgt aacgattatt gccacggggt tctctcacag ttttcagaaa      1200
73 tctactagtg acccaaacgt ttctaggtcg gagaggcagg acgccccgag taatgcactc      1260
75 gagaaacctt ggaagcaacc aactcccacc tcatcaagat ttcgtcaagg ccttaatagc      1320
77 aaggggtttt tgtag                                     1335

```

RAW SEQUENCE LISTING

DATE: 02/22/2006

PATENT APPLICATION: US/10/538,530

TIME: 12:11:07

Input Set : A:\MBP-017\SeqList.txt

Output Set: N:\CRF4\02222006\J538530.raw

```

80 <210> SEQ ID NO: 2
81 <211> LENGTH: 1473
82 <212> TYPE: DNA
83 <213> ORGANISM: Physcomitrella patens
85 <400> SEQUENCE: 2
86 atgatcacgt gtaggggttg gggtgggttg gggccgggtga gcccttcttt gattcttctg      60
88 ccctcgaaga gtaacggaga atgcgtccta agtgcaagaa aagctgattg gggattactg      120
90 agccaagtgc aatgccaacg ctttcgatgt ctatcttcag aatataaggg tcataatctt      180
92 aaacttagaa gacgtagccg tgtctcagct tccaacagag aaaacggtag tttaaatggg      240
94 cgtttccagg aatcactgag tcaagagaat gggatccgg caccaactga agggactgat      300
96 cctcacactt tctccacggc gatggactcc ttagctatta aagcagagga agcttacaat      360
98 gacgtacagg attcttttgc caagagtagt aaacaacgga gcttatctgg ctgcgcttct      420
100 atcaaagtgt tcggtgtcgg ggggtggtga tgcaatgcgg tagacgaaat ggtgagggtca      480
102 gaactattga atgttgagtt ctgggccgtc aatactgaca aacaagcatt gaacaagtcg      540
104 ctgggtccca ataaaattca aattggcacg gacacgacag ccggccgcgg tgcagggtgga      600
106 agaagtgcaa ccggtgagga agcagctaca gagtcattgg cggagctttc gatggcactt      660
108 gaagggtgcc atttagtctt catcgccctc ggtatgggtg gcggtactgg ttcaggagca      720
110 gctcctgtgg tggctcgggt ggcgaaggct atgggagcgt taacgattgg catagtaact      780
112 gaacctttca catttgaagg gttcacccga gctcgacaag ctaggaaagc cattgaggac      840
114 atgcgccatg cggctgacac tgtggttgta gttccaaatg atcggttgct ccagactgta      900
116 gcacctgaca catctatgct ggaggctttc catcttgcag atgacgtctt gcggcaggga      960
118 gtgcaaggaa tttcagacat catcacgata cccgggctag tcaacgtcga ctttgcggat      1020
120 gtgaaagcta tcatgtcaaa tgcagggagt gcaatggttg gaatcggcgc tggttttggg      1080
122 aagaaccgtg ctgaggagggt ggcacgggtca gccatcatgt ctctctact ccgctccgctc      1140
124 tcgagaccca tgggtattgt gtacaatgtg acagggtggga gcgacctaac tcttcacgag      1200
126 gtcaacatcg ctgccgaaat tggtcatgac atggctgatc caaacgcaaa tgttatcttt      1260
128 ggggcgggtc ttgatgagag ctttaagggg atgatacgta tgactgtcat tgcaactgga      1320
130 tttagagagc ctggagagga gaaggctcgt ggtagtgttc gaactgtaga cgatgatata      1380
132 ttctactggg aacagaataa gaataggtcc gaccttggca aagtgccgga cgttttgcca      1440
134 agaaaagatc gaaggcgtgg cagtggcagg taa                                1473
137 <210> SEQ ID NO: 3
138 <211> LENGTH: 444
139 <212> TYPE: PRT
140 <213> ORGANISM: Physcomitrella patens
142 <400> SEQUENCE: 3
143 Met Met Ser Ser Met Val Arg Phe Ser Ser Ser Pro Cys Ser Phe Thr
144 1          5          10          15
147 Gly Ser Leu Cys Ser Thr Ser Pro Gln Ser Met His Pro Met Ser Ser
148          20          25          30
151 Val Ala Ala Lys Val Thr Arg Gln Cys Gly Cys Leu Arg Ala Gly Asn
152          35          40          45
155 Lys Leu Asp Lys Asp Gln Phe Val Gly Asp Gly Lys Pro Leu Met His
156          50          55          60
159 Gln Gln Thr Arg Gly Trp Ser Gln Gly Arg Glu Arg Cys His Ala Gly
160 65          70          75          80
163 Arg Ser Val Val Met Ala Ser Met Ser Gly Ala Lys Ile Lys Val Ile
164          85          90          95
167 Gly Val Gly Gly Gly Gly Asn Asn Ala Val Asn Arg Met Ile Gly Ser
168          100          105          110

```

RAW SEQUENCE LISTING

DATE: 02/22/2006

PATENT APPLICATION: US/10/538,530

TIME: 12:11:07

Input Set : A:\MBP-017xxSeqList.txt

Output Set: N:\CRF4\02222006\J538530.raw

```

171 Gly Ile Gln Gly Val Asp Phe Trp Ala Ile Asn Thr Asp Val Gln Ala
172      115      120      125
175 Leu Gln Lys Ser Gln Ala Glu His Arg Val Gln Ile Gly Glu Ala Leu
176      130      135      140
179 Thr Arg Gly Leu Gly Thr Gly Gly Lys Pro Phe Leu Gly Glu Gln Ala
180 145      150      155      160
183 Ala Glu Glu Ser Ile Glu Ile Ile Ala Gln Ala Val Val Asp Ala Asp
184      165      170      175
187 Leu Val Phe Ile Thr Ala Gly Met Gly Gly Gly Thr Gly Ser Gly Ala
188      180      185      190
191 Ala Pro Val Val Ala Arg Val Ala Lys Glu Ala Gly Gln Leu Thr Val
192      195      200      205
195 Gly Val Val Thr Tyr Pro Phe Thr Phe Glu Gly Arg Arg Arg Ser Gln
196      210      215      220
199 Gln Ala Val Glu Ala Ile Glu Asn Leu Arg Lys Ser Val Asp Ser Leu
200 225      230      235      240
203 Ile Val Ile Pro Asn Asp Arg Leu Leu Asp Val Ser Gly Asp Lys Thr
204      245      250      255
207 Pro Leu Gln Glu Ala Phe Ser Leu Ala Asp Asp Val Leu Arg Gln Gly
208      260      265      270
211 Val Gln Gly Ile Ser Asp Ile Ile Thr Thr Pro Gly Leu Val Asn Val
212      275      280      285
215 Asp Phe Ala Asp Val Arg Ala Val Met Ser Asn Ser Gly Thr Ala Met
216      290      295      300
219 Leu Gly Val Gly Ser Ser Ser Gly Lys Asn Arg Ala Glu Glu Ala Ala
220 305      310      315      320
223 Val Gln Ala Ala Ser Ala Pro Leu Ile Glu Arg Ser Ile Glu Gln Ala
224      325      330      335
227 Thr Gly Ile Val Tyr Asn Ile Thr Gly Gly Pro Asp Leu Thr Leu Gln
228      340      345      350
231 Glu Val Asn Thr Val Ser Glu Ile Val Thr Gly Leu Ala Asp Pro Ser
232      355      360      365
235 Ala Asn Ile Ile Phe Gly Ala Val Val Asp Asp Lys Tyr Thr Gly Glu
236      370      375      380
239 Ile His Val Thr Ile Ile Ala Thr Gly Phe Ser His Ser Phe Gln Lys
240 385      390      395      400
243 Ser Leu Val Asp Pro Asn Val Ser Arg Ser Glu Arg Gln Asp Ala Pro
244      405      410      415
247 Ser Asn Ala Leu Glu Lys Pro Trp Lys Gln Pro Thr Pro Thr Ser Ser
248      420      425      430
251 Arg Phe Arg Gln Gly Leu Asn Ser Lys Gly Phe Leu
252      435      440
255 <210> SEQ ID NO: 4
256 <211> LENGTH: 490
257 <212> TYPE: PRT
258 <213> ORGANISM: Physcomitrella patens
260 <400> SEQUENCE: 4
261 Met Ile Thr Cys Arg Val Trp Val Gly Leu Gly Pro Val Ser Pro Ser
262 1      5      10      15

```

RAW SEQUENCE LISTING

DATE: 02/22/2006

PATENT APPLICATION: US/10/538,530

TIME: 12:11:07

Input Set : A:\MBP-017\SeqList.txt

Output Set: N:\CRF4\02222006\J538530.raw

```

265 Leu Ile Leu Leu Pro Ser Lys Ser Asn Gly Glu Cys Val Leu Ser Ala
266      20      25      30
269 Arg Lys Ala Asp Trp Gly Leu Leu Ser Gln Val Gln Cys Gln Arg Phe
270      35      40      45
273 Arg Cys Leu Ser Ser Glu Tyr Lys Gly His Asn Leu Lys Leu Arg Arg
274      50      55      60
277 Arg Ser Arg Val Ser Ala Ser Asn Arg Glu Asn Gly Ser Leu Asn Gly
278 65      70      75      80
281 Arg Phe Gln Glu Ser Leu Ser Gln Glu Asn Gly Tyr Pro Ala Pro Thr
282      85      90      95
285 Glu Gly Thr Asp Pro His Thr Phe Ser Thr Ala Met Asp Ser Leu Ala
286      100      105      110
289 Ile Lys Ala Glu Glu Ala Tyr Asn Asp Val Gln Asp Ser Phe Ala Lys
290      115      120      125
293 Ser Ser Lys Gln Arg Ser Leu Ser Gly Cys Ala Ser Ile Lys Val Phe
294      130      135      140
297 Gly Val Gly Gly Gly Gly Cys Asn Ala Val Asp Glu Met Val Arg Ser
298 145      150      155      160
301 Glu Leu Leu Asn Val Glu Phe Trp Ala Val Asn Thr Asp Lys Gln Ala
302      165      170      175
305 Leu Asn Lys Ser Leu Ala Pro Asn Lys Ile Gln Ile Gly Gln Asp Thr
306      180      185      190
309 Thr Ala Gly Arg Gly Ala Gly Gly Arg Ser Ala Thr Gly Glu Glu Ala
310      195      200      205
313 Ala Thr Glu Ser Leu Ala Glu Leu Ser Met Ala Leu Glu Gly Ala Asp
314      210      215      220
317 Leu Val Phe Ile Ala Ser Gly Met Gly Gly Gly Thr Gly Ser Gly Ala
318 225      230      235      240
321 Ala Pro Val Val Ala Arg Leu Ala Lys Ala Met Gly Ala Leu Thr Ile
322      245      250      255
325 Gly Ile Val Thr Glu Pro Phe Thr Phe Glu Gly Phe Thr Arg Ala Arg
326      260      265      270
329 Gln Ala Arg Lys Ala Ile Glu Asp Met Arg His Ala Ala Asp Thr Val
330      275      280      285
333 Val Val Val Pro Asn Asp Arg Leu Leu Gln Thr Val Ala Pro Asp Thr
334      290      295      300
337 Ser Met Leu Glu Ala Phe His Leu Ala Asp Asp Val Leu Arg Gln Gly
338 305      310      315      320
341 Val Gln Gly Ile Ser Asp Ile Ile Thr Ile Pro Gly Leu Val Asn Val
342      325      330      335
345 Asp Phe Ala Asp Val Lys Ala Ile Met Ser Asn Ala Gly Ser Ala Met
346      340      345      350
349 Leu Gly Ile Ala Leu Val Leu Gly Lys Asn Arg Ala Glu Glu Val Ala
350      355      360      365
353 Arg Ser Ala Ile Met Ser Pro Leu Leu Arg Ser Val Ser Arg Pro Met
354      370      375      380
357 Gly Ile Val Tyr Asn Val Thr Gly Gly Ser Asp Leu Thr Leu His Glu
358 385      390      395      400
361 Val Asn Ile Ala Ala Glu Ile Val His Asp Met Ala Asp Pro Asn Ala

```

RAW SEQUENCE LISTING

DATE: 02/22/2006

PATENT APPLICATION: US/10/538,530

TIME: 12:11:07

Input Set : A:\MBP-017\SeqList.txt

Output Set: N:\CRF4\02222006\J538530.raw

```

362          405          410          415
365 Asn Val Ile Phe Gly Ala Val Ile Asp Glu Ser Phe Lys Gly Met Ile
366          420          425          430
369 Arg Met Thr Val Ile Ala Thr Gly Phe Arg Glu Pro Gly Glu Glu Lys
370          435          440          445
373 Val Val Gly Ser Val Arg Thr Val Asp Asp Asp Ile Phe Tyr Trp Glu
374          450          455          460
377 Gln Asn Lys Asn Arg Ser Asp Leu Gly Lys Val Pro Asp Val Leu Arg
378 465          470          475          480
381 Arg Lys Asp Arg Arg Gly Ser Gly Arg
382          485          490
385 <210> SEQ ID NO: 5
386 <211> LENGTH: 383
387 <212> TYPE: PRT
388 <213> ORGANISM: Physcomitrella patens
390 <400> SEQUENCE: 5
391 Met Asp Ser Leu Ala Ile Lys Ala Glu Glu Ala Tyr Asn Asp Val Gln
392 1          5          10          15
395 Asp Ser Phe Ala Lys Ser Ser Lys Gln Arg Ser Leu Ser Gly Cys Ala
396          20          25          30
399 Ser Ile Lys Val Phe Gly Val Gly Gly Gly Gly Cys Asn Ala Val Asp
400          35          40          45
403 Glu Met Val Arg Ser Glu Leu Leu Asn Val Glu Phe Trp Ala Val Asn
404          50          55          60
407 Thr Asp Lys Gln Ala Leu Asn Lys Ser Leu Ala Pro Asn Lys Ile Gln
408 65          70          75          80
411 Ile Gly Gln Asp Thr Ala Gly Arg Gly Ala Gly Gly Arg Ser Ala
412          85          90          95
415 Thr Gly Glu Glu Ala Ala Thr Glu Ser Leu Ala Glu Leu Ser Met Ala
416          100         105         110
419 Leu Glu Gly Ala Asp Leu Val Phe Ile Ala Ser Gly Met Gly Gly Gly
420          115         120         125
423 Thr Gly Ser Gly Ala Ala Pro Val Val Ala Arg Leu Ala Lys Ala Met
424          130         135         140
427 Gly Ala Leu Thr Ile Gly Ile Val Thr Glu Pro Phe Thr Phe Glu Gly
428 145         150         155         160
431 Phe Thr Arg Ala Arg Gln Ala Arg Lys Ala Ile Glu Asp Met Arg His
432          165         170         175
435 Ala Ala Asp Thr Val Val Val Val Pro Asn Asp Arg Leu Leu Gln Thr
436          180         185         190
439 Val Ala Pro Asp Thr Ser Met Leu Glu Ala Phe His Leu Ala Asp Asp
440          195         200         205
443 Val Leu Arg Gln Gly Val Gln Gly Ile Ser Asp Ile Ile Thr Ile Pro
444          210         215         220
447 Gly Leu Val Asn Val Asp Phe Ala Asp Val Lys Ala Ile Met Ser Asn
448 225         230         235         240
451 Ala Gly Ser Ala Met Leu Gly Ile Ala Leu Val Leu Gly Lys Asn Arg
452          245         250         255
455 Ala Glu Glu Val Ala Arg Ser Ala Ile Met Ser Pro Leu Leu Arg Ser

```

VERIFICATION SUMMARY

DATE: 02/22/2006

PATENT APPLICATION: US/10/538,530

TIME: 12:11:08

Input Set : A:\MBP-017xxSeqList.txt

Output Set: N:\CRF4\02222006\J538530.raw